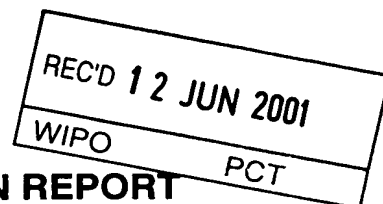


INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference P 00 1824 PC 979	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/02128	International filing date (day/month/year) 10/03/2000	Priority date (day/month/year) 12/03/1999
International Patent Classification (IPC) or national classification and IPC D05C15/20		
Applicant GROZ-BECKERT KG et al.		



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 09/10/2000	Date of completion of this report 08.06.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Herry-Martin, D Telephone No. +49 89 2399 2060 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/02128

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-7 as originally filed

Claims, No.:

1-7 as received on 19/05/2001 with letter of 18/05/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/02128

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	2-7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Claim 1 does not satisfy the criterion set forth in Article 33(2) PCT because its subject-matter is not new in respect of prior art defined in the regulations (Rule 64(1)-(3) PCT).

Each of the documents US-A-5 738 027, GB-A-1 533 707, JP-A-11 01291 and JP-A-07 090766 discloses a method for running a tufting machine having at least one needlebar, loopers or hooks to pick up yarn delivered through the needles of the needlebar, knives to cut the yarn loops and driving means, wherein the needle action or the looper action or the hook action or the knife action is a non-simple harmonic motion.

The technical features relative to the cooperation between needles, loopers, hooks and knives are not disclosed in claim 1.

2. Dependent claims 2-7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT).

In claims 2-7 slight changes in the method for running a tufting machine of claim 1 are suggested which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can be readily contemplated in advance. See also documents US-A-5 738 027, GB-A-1 533 707, JP-A-11 01291, JP-A-07 090766 and US-A-5 588 383.

Re Item VII

Certain defects in the international application

1. The requirements of Rule 5.1(a)(ii) PCT are not fulfilled because the documents US-A-5 738 027, GB-A-1 533 707, JP-A-11 01291 and JP-A-07 090766 are not identified in the description and the relevant background art disclosed therein is not briefly discussed.

CLAIMS

REPLACED BY
ART 34 ADJUST

1. Tufting machine having at least one needlebar,
loopers and/or hooks to pick up yarn delivered through the needles of the needlebar,
5 knives to cut the yarn loops
and driving means,

characterized in that

the needle action and/or the looper action and/or the hook action and/or the knife ac-
tion is/are a non-simple harmonic motion.

10

2. Tufting machine according to claim 1, characterized in that the needlebar(s), the
hooks, the knives and the loopers have separate drive systems.

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3. Tufting machine according to claim 1 or 2, characterized in that the drive sys-
tem of the needlebar(s) is computer-controlled.

4. Tufting machine according to one of the preceding claims, characterized in that
the drive system of the loopers is computer-controlled.

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5. Tufting machine according to one of the preceding claims, characterized in that
the drive system of the hooks is computer-controlled.

6. Tufting machine according to one of the preceding claims, characterized in that
the drive system of the knives is computer-controlled.

25

7. Method for running a tufting machine according to one of the preceding claims,
characterized in that the needlebar(s) are slowed or halted when the needles stand at
the pick-up point to assist the looper or the hooks to pick up the yarn from the needles.

8. Method for running a tufting machine according to one of the preceding claims, characterized in that the needlebar(s) are slowed or halted when the needles stand above the backing to extend the time available for feeding of the primary backing fabric.

9. Method for running a tufting machine according to one of the preceding claims, using a double-sliding needlebar, characterized in that the needlebar(s) are slowed or halted when the needles stand in the top dead center to avoid the needles tagging the back-stitches.

10. Method for running a tufting machine according to one of the preceding claims, characterized in that the loopers are held extended to hold the loops until later in the tufting cycle.

11. Method for running a tufting machine according to one of the preceding claims, characterized in that the hooks are held extended to hold the loops until later in the tufting cycle.

12. Method for running a tufting machine according to one of the preceding claims, characterized in that the knives are moved forward to cut the loops at a point where they always have the same length.

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/EP 00/02128

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 D05C15/20 D05C15/22 D05C15/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 D05C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 738 027 A (WHITE DEREK) 14 April 1998 (1998-04-14)	1
Y	the whole document	2-6

X	GB 1 533 707 A (NAT RES DEV) 29 November 1978 (1978-11-29)	1
	the whole document	

X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 04, 30 April 1999 (1999-04-30) - & JP 11 012915 A (MURAKOSHI SEWING MACH KOGYO KK; MITSUBISHI ELECTRIC CORP), 19 January 1999 (1999-01-19) abstract	1

	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

28 June 2000

Date of mailing of the international search report

05/07/2000

Name and mailing address of the ISA

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Authorized officer

Debard, M

INTERNATIONAL SEARCH REPORT

Internat Application No

PCT/EP 00/02128

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 07, 31 August 1995 (1995-08-31) -& JP 07 090766 A (BARUDAN CO LTD), 4 April 1995 (1995-04-04) abstract; figure 6 ----	1
Y	US 5 588 383 A (DAVIS DAVID L ET AL) 31 December 1996 (1996-12-31) the whole document ----	2-6
A	US 5 526 760 A (OK THOL) 18 June 1996 (1996-06-18) -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No

PCT/EP 00/02128

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5738027 A	14-04-1998	DE 4435723 A GB 2293835 A,B JP 2843784 B JP 8176949 A	11-04-1996 10-04-1996 06-01-1999 09-07-1996
GB 1533707 A	29-11-1978	US 4100814 A	18-07-1978
JP 11012915 A	19-01-1999	NONE	
JP 07090766 A	04-04-1995	NONE	
US 5588383 A	31-12-1996	NONE	
US 5526760 A	18-06-1996	NONE	

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P 00 1824 PC 979	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/ 02128	International filing date (day/month/year) 10/03/2000	(Earliest) Priority Date (day/month/year) 12/03/1999
Applicant GROZ-BECKERT KG et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

National Application No
PCT/EP 00/02128

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 D05C15/20 D05C15/22 D05C15/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D05C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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- "P" document published prior to the international filing date but later than the priority date claimed

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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

28 June 2000

Date of mailing of the international search report

05/07/2000

Name and mailing address of the ISA

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Authorized officer

Debard, M

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/02128

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 07, 31 August 1995 (1995-08-31) -& JP 07 090766 A (BARUDAN CO LTD), 4 April 1995 (1995-04-04) abstract; figure 6 ---	1
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A	US 5 526 760 A (OK THOL) 18 June 1996 (1996-06-18) -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/02128

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5738027	A	14-04-1998	DE 4435723 A GB 2293835 A, B JP 2843784 B JP 8176949 A	11-04-1996 10-04-1996 06-01-1999 09-07-1996
GB 1533707	A	29-11-1978	US 4100814 A	18-07-1978
JP 11012915	A	19-01-1999	NONE	
JP 07090766	A	04-04-1995	NONE	
US 5588383	A	31-12-1996	NONE	
US 5526760	A	18-06-1996	NONE	